

Urban Oasis

BY MICHAEL WEHNER

PHOTOGRAPHY BY ROBERT LIEBERMAN



Schwab Rehabilitation Hospital is an 82-bed physical medicine and rehabilitation hospital located on Chicago's West Side; in fall 2003, landscape architects Douglas Hill Associates, Inc., completed the facility's 10,000-square-foot therapeutic rooftop garden. This project was funded with a \$400,000 grant from the City of Chicago's Heat Island Reduction Initiative and approximately \$80,000 from private donors.

For many of the patients visiting Schwab Rehabilitation Hospital's rooftop garden, it is their first time outside of an institutional setting in months. Visitors are greeted by spectacular floral displays and the soothing sound of running water from a waterfall that feeds a 50-foot pebble-lined stream. The garden also features plenty of shaded seating areas, a children's playground lined with soft rubber tiles, and a basketball half-court. Patients' response to this experience is almost always one of intense excitement; some are speechless and later report leaving the garden with a renewed sense of optimism and motivation. In this way, daily access to nature makes the rehabilitation process easier for the patients at Schwab.

Functional Intervention

The rooftop garden is a symbol of Schwab's progressive approach to healthcare. Therapists at Schwab use the space as a peaceful and interactive environment for treating patients. Psychologists use the space to counsel patients. Occupational therapists work with



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IN THE ROOFTOP GARDEN



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patients to hone fine motor activities such as pruning and weeding, while physical therapists work with patients developing walking and wheelchair-mobility skills. Speech language pathologists work with patients to develop memory and language by using the pleasant environment to recall plant descriptions by texture, scent, location, and color. Recreational therapists facilitate horticultural therapy groups and educate patients on ways leisure activities can be adapted to meet their needs. The recreation therapy department also introduces patients to adaptive sports, such as hand cycling, golf, and wheelchair basketball in the rooftop garden setting.

Environmentally Conscious Design

This project was designed to be environmentally friendly. Since the rooftop garden's completion, the building has increased efficiency and the plants actually help to decrease air pollution, a concern in our urban location. Materials chosen for the project have a high R-value rating and are lighter than typical building materials. An R-value rating defines a material's ability to insulate; a higher R-value rating means greater insulating properties. This helps to keep the building cooler during the summer months and warm during winter months, dramatically reducing the consumption of gas and electricity. For example, the stone used for the walking path has a glaze that reflects sunlight, and it is not as heavy as typical pavers, increasing the overall energy efficiency of the building. The raised beds make use of rainwater runoff through retention in the soil and uptake of the plant's root systems. The raised beds also have an insulating effect on the building, reducing heat gain and loss. In addition to being aesthetically pleasing, the plants help to clean the air through photosynthesis, converting carbon dioxide to oxygen. The engineered soil used in the raised beds is made of expanded clay, humus, and vermiculite. This composition makes the soil very lightweight, and it drains extremely well. The raised beds also feature

an automated drip irrigation system. This system uses far less water and is more effective than typical sprinklers.

Universal Accessibility

Every feature of the garden was designed to be accessible to people with and without disabilities. All of the gardening space was designed to have portions within reach of a wheelchair, including the stream. The retaining walls are at an appropriate height for transfer from a wheelchair to the retaining wall. Several containers located throughout the garden are at an ideal height for gardening while seated in a wheelchair or standing. In addition, the entrance to the garden features an automated door.

Plant Selection

The Schwab rooftop garden classifies as an "intensive rooftop garden," meaning the garden has soil depths that average over 6" and the overall design of the garden includes architecturally involved elements like water features and walking paths. At Schwab, there is more than 2,000 square feet of planting space on the rooftop. The soil depth averages between 8" and 16".

Intensive rooftop gardens do add a lot of weight to a roof but, fortunately, structural improvements were not needed in this case because the building was designed and built to support an additional floor. In contrast, extensive rooftop gardens typically only include plants that can grow in 3" of soil or less, such as sedum. Sedum is a hearty succulent that is often used as ground cover. Sedum has an attractive fleshy tissue, is drought resistant, and tolerates full sun. Extensive rooftop gardens are built specifically for their environmental or greening effects, and structural improvements are not usually needed to accommodate this type of garden.

The theme for the garden is based on what you might find growing in Midwestern savannas. The 50 plant species that were selected are



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drought-resistant and tolerate full sun. Many of the plants have attractive floral displays, such as butterfly bush and wild indigo. Other plants were selected for the added sensory stimulation they might bring, such as the strong, calming scent of lavender and the piney texture of blue fescue. The garden also includes plants that were selected for their ability to attract butterflies, such as butterfly bush, butterfly weed, yarrow, and milkweed. As summer wanes, these plants attract hundreds of butterflies to the garden each day.

Maintenance

The recreational therapy department directs the maintenance of the garden. Schwab staff, with the help of patients and master gardener volunteers, complete the ongoing maintenance that includes weeding, watering, mulching, and pruning of the perennial plants and flowers. To complement the green design of the rooftop garden, the gardeners use organic gardening techniques that include chipping, shredding, and composting. By using these sustainable techniques, no chemical fertilizer is needed, and the production of yard waste is cut by more than 90%. This reduces the need to bring unwanted plant material into the building; it is composted and added to the soil as a natural means of enrichment. Maintenance of the garden is funded primarily by private donors.

Planned Improvements

In time, several elements will be added to the garden to diversify its use. For example, staff will be adding several small raised beds for patients to grow herbs and vegetables; this will be used to educate patients and the community about diet and health. This hands-on experience will introduce patients to techniques that they can later use to grow other healthy, nutritious foods at home. Plans also include an expansion of the adaptive sports that are offered in the garden, including the addition of a portable adaptive tennis net. Adaptive tennis nets have adjustable height and are lower than standard tennis nets, allowing people of all abilities to play. **HD**

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